V4.250

User's Manual

FOUR CHANNELS POWER AMPLIFIER

viscount

— English —

viscount

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SAFETY RELATED SYMBOLS

This symbol, wherever used, alerts you to the presence of un-insulated and dangerous voltages within the product enclosure. These are voltages that may be sufficient to constitute the risk of electric shock or death.

This symbol, wherever used, alerts you to important operating and maintenance instructions. Please read.

⏚ Protective Ground Terminal

~ AC mains (Alternating Current)

Hazardous Live Terminal

ON: Denotes the product is turned on.

OFF: Denotes the product is turned off.

WARNING

Describes precautions that should be observed to prevent the possibility of death or injury to the user.

CAUTION

Describes precautions that should be observed to prevent damage to the product.

Disposing of this product should not be placed in municipal waste and should be Separate collection.

WARNING

- **Power Supply**

  Ensure that the mains source voltage (AC outlet) matches the voltage rating of the product. Failure to do so could result in damage to the product and possibly the user.

  Unplug the product before electrical storms occur and when unused for long periods of time to reduce the risk of electric shock or fire.

- **External Connection**

  Always use proper ready-made insulated mains cabling (power cord). Failure to do so could result in shock/death or fire. If in doubt, seek advice from a registered electrician.

- **Do Not Remove Any Covers**

  Within the product are areas where high voltages may present. To reduce the risk of electric shock do not remove any covers unless the AC mains power cord is removed.

  Covers should be removed by qualified service personnel only.
  No user serviceable parts inside.

- **Fuse**

  To prevent fire and damage to the product, use only the recommended fuse type as indicated in this manual. Do not short-circuit the fuse holder. Before replacing the fuse, make sure that the product is OFF and disconnected from the AC outlet.

- **Protective Ground**

  Before turning the product ON, make sure that it is connected to Ground. This is to prevent the risk of electric shock.

  Never cut internal or external Ground wires. Likewise, never remove Ground wiring from the Protective Ground Terminal.

- **Operating Conditions**

  Always install in accordance with the manufacturer's instructions.

  To avoid the risk of electric shock and damage, do not subject this product to any liquid/rain or moisture. Do not use this product when in close proximity to water.

  Do not install this product near any direct heat source.

  Do not block areas of ventilation. Failure to do so could result in fire.

  Keep product away from naked flames.

IMPORTANT SAFETY INSTRUCTIONS

Read these instructions

Follow all instructions

Keep these instructions. Do not discard.

Heed all warnings.

Only use attachments/accessories specified by the manufacturer.

- **Power Cord and Plug**

  Do not tamper with the power cord or plug. These are designed for your safety.

  Do not remove Ground connections!

  If the plug does not fit your AC outlet seek advice from a qualified electrician.

  Protect the power cord and plug from any physical stress to avoid risk of electric shock.

  Do not place heavy objects on the power cord. This could cause electric shock or fire.

- **Cleaning**

  When required, either blow off dust from the product or use a dry cloth.

  Do not use any solvents such as Benzol or Alcohol. For safety, keep product clean and free from dust.

- **Servicing**

  Refer all servicing to qualified service personnel only.

  Do not perform any servicing other than those instructions contained within the User's Manual.

9. WARRANTY

1. WARRANTY REGISTRATION CARD

To obtain Warranty Service, the buyer should first fill out and return the enclosed Warranty Registration Card within 10 days of the Purchase Date.

All the information presented in this Warranty Registration Card gives the manufacturer a better understanding of the sales status, so as to purport a more effective and efficient after-sales warranty service.

Please fill out all the information carefully and genuinely, miswriting or absence of this card will void your warranty service.

2. RETURN NOTICE

2.1 In case of return for any warranty service, please make sure that the product is well packed in its original shipping carton, and it can protect your unit from any other extra damage.

2.2 Please provide a copy of your sales receipt or other proof of purchase with the returned machine, and give detail information about your return address and contact telephone number.

2.3 A brief description of the defect will be appreciated.

2.4 Please prepay all the costs involved in the return shipping, handling and insurance.

3. TERMS AND CONDITIONS

3.1 VISCOUNT warrants that this product will be free from any defects in materials and/or workmanship for a period of 1 year from the purchase date if you have completed the Warranty Registration Card in time.

3.2 The warranty service is only available to the original consumer, who purchased this product directly from the retail dealer, and it can not be transferred.

3.3 During the warranty service, VISCOUNT may repair or replace this product at its own option at no charge to you for parts or for labor in accordance with the right side of this limited warranty.

3.4 This warranty does not apply to the damages to this product that occurred as the following conditions:

- Instead of operating in accordance with the user's manual thoroughly, any abuse or misuse of this product.
- Normal tear and wear.
- The product has been altered or modified in any way.
- Damage which may have been caused either directly or indirectly by another product / force / etc.
- Abnormal service or repairing by anyone other than the qualified personnel or technician.

And in such cases, all the expenses will be charged to the buyer.

3.5 In no event shall VISCOUNT be liable for any incidental or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitation may not apply to you.

3.6 This warranty gives you the specific rights, and these rights are compatible with the state laws, you may also have other statutory rights that may vary from state to state.

PREFACE

TABLE OF CONTENTS

1. INTRODUCTION.....4

2. FEATURES.....4

3. CONTROL ELEMENTS.....5

4. INSTALLATION.....7

5. APPLICATION.....8

6. CAUTION FOR APPLICATION.....10

7. BLOCK DIAGRAM.....11

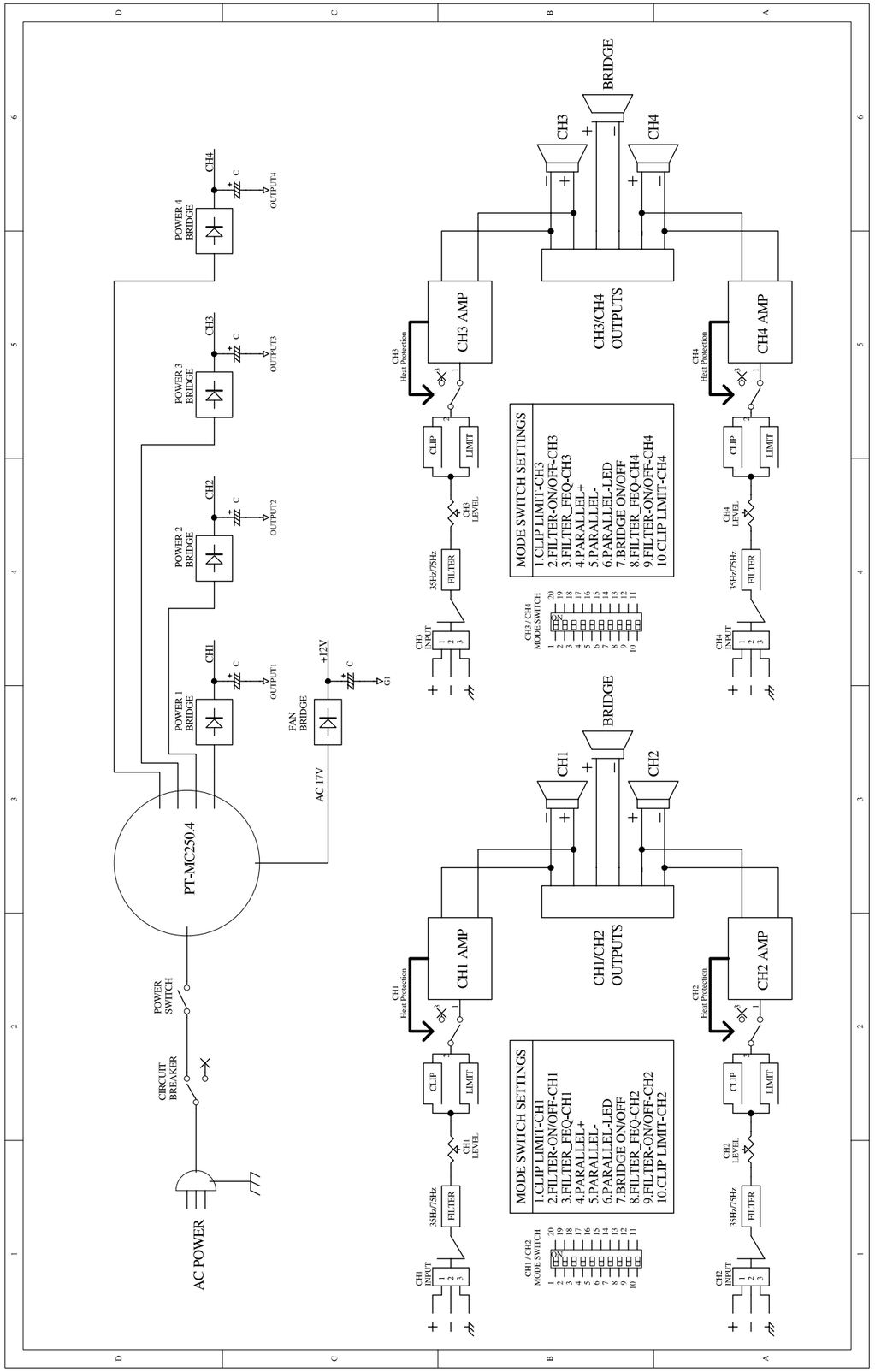
8. TECHNICAL SPECIFICATIONS.....12

9. WARRANTY.....13

8. TECHNICAL SPECIFICATION

Model	V4.250
Output Power	
20Hz 20kHz @0.1%THD , stereo Mode	
8 ohms per channel (EIAJ)	4x180W
4 ohms per channel (EIAJ)	4x250W
Bridge Mono Mode	
8 ohms, 1kHz, 0.1% THD (EIAJ)	2x500W
Distortion (SMPTE-IM)	<0.05%
Frequency Response	20Hz- 20kHz ±1dB, -3dB point: 10Hz- 60kHz
Damping Factor, 1kHz, 0.1%THD(EIAJ)	>300@8 ohms
Signal to Noise, 20Hz-20kHz	90dB
Voltage Gain	40x (32dB)
Input sensitivity @ 4 ohms	1Vrms
Input clipping	10 Vrms (+22dB)
Input impedance	10Kohms unbalanced, 20 Kohms balanced
Controls	Front: AC Switch, Ch1 - Ch4 Gain Knobs
	Rear: MODE SWITCHS
Indicators	Power - On: Blue LED
	Protection: Green LED
	LIMITER : Yellow LED
	Clip: Red LED
	Parallel-input: Yellow LED
	Bridge: Yellow LED
	Level: Green LED (-20 and -10dB)
Connectors, each channel	Input: Terminal Block
	Output: Screw-terminal Barrier Block
cooling	Continuously variable- speed fan, front - to - rear air flow
Load protection	On / Off muting, overheat & short circuit protection
Power supply	220-240 (110-120) Vac 50-60 Hz
Dimensions	19" (48.3 cm) rack mounting, 3.5" (8.9 cm) tall (2 rack spaces), 15.9" (40.3 cm) deep (rack mounting to rear support ears)
Net weight	17Kg

7. BLOCK DIAGRAM



1. INTRODUCTION

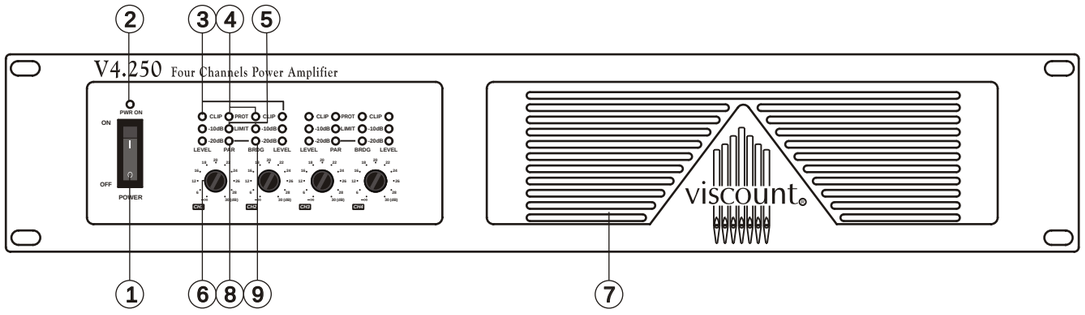
The V4.250 Four Channels Power Amplifier is designed for professional use and provides unparalleled quality. It Includes soft start, signal limit, two variable-speed-low-noise fans and a LED meter display. Each channel is equipped with independent protective circuitry against open circuit, short circuit, mismatched loads and overheat. It includes four independent channels with separate power supply. Furthermore, every channel has also a main LED that becomes green for power-on indicator and green for muting or protection, another red LED that shows true amplifier clipping and a yellow one for the limit stage. The high-quality components and the carefully designed circuits ensure excellent audio performance and an extremely linear frequency response, giving crystal-clear sound in the high range and an up-front, full-bodied bottom end. This amplifier guarantees total reliability and a trouble-free use even in the most demanding conditions. We believe the V4.250 not only look great, but provide a perfect performance, what you get is unprecedented performance at an incredibly attractive price.

2. FEATURE

- Innovative design and high stability power amplifier
- Fan-cooled AB class high power amplifier in 19", 2U size
- 4 independent channels with separate protection system
- DC, infrasonic, overheat & short circuit protection
- Smart-designed protection system for auto re-operation after fault
- Parallel-input: channel 1 to channel 2, channel 3 to channel 4
- Allow selection of Stereo, Bridge or parallel operation
- Ultra low-noise and hum
- High-pass filter , allow selection of flat, 35 Hz or 75Hz, protect speakers and prevent speaker transformer saturation with minimal effect on program material.
- DIP switch control for clip limit, high-pass filter, bridge-mono selections
- AUTO variable- speed-low-noise fans ensure high reliability even under demanding conditions.
- Detachable Euroblock: " Barrier strip" input connectors.
- Rugged amplifier in a strong, compact chassis

3. CONTROL ELEMENTS

3.1 The Front Panel



① Power Switch

It switches on / off V4.250 main power.

② Power LED

This LED lights up when the amplifier is powered on

③ Input Level Indicator Display

There are three high accurate LED indicators, which shows the level of the input signal. When the respective channel's output signal distortion exceeds 0.5%, the red LED (clip) indicator lights up. it will warn you that the level of the input signal is too high and may cause distortion, please attenuate the level of the input signal.

④ Protection LED

This green LED indicator lights up when the amplifier is powered ON, indicating that the soft-start protection system is working. No sound is output during soft-start up. if one of the protection systems is activated during normal use, this indicator lights up and no sound is output. The speakers system is actually disconnected from the amplifier outputs when this indicator lights up. The protection systems are activated when overheating occurs or a DC voltage is corrected, the protection systems deactivate automatically, this indicator goes out, and normal amplifier operation is resumed.

⑤ Output Limiter LED

Set the clip limit switch at "ON" position, the yellow LED lights up when the unit is limiting the output signal.

⑥ Level Control

This pot provides smooth level changes control.

⑦ Fan

The unit is equipped with two fans, which can accelerate the flow of air to lower the temperature inside unit. The inside temperature determines the fan speed, which controls the inside air flowing speed.

⑧ Bridge Mode LED Indicator

When you operate the unit in bridge mode, the LED indicator lights up .

⑨ Parallel Mode LED Indicator

When you operate the unit power amplifier in parallel mode, the LED indicator lights up

6.CAUTION FOR APPLICATION

6.1 General Application instruction

the following instructions describe the common ways to install your V4.250 power amplifier into a sound application system:

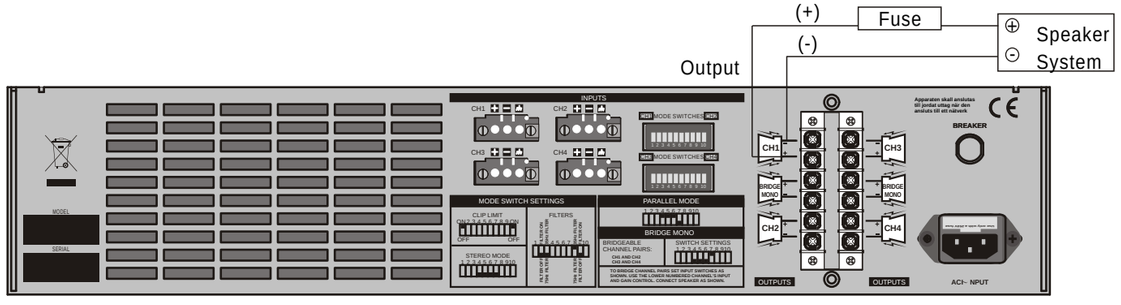
First, turn off power switch before connection.

Refer to chapter 5 for speaker connection

V4.250 power amplifier may be operated in one of the three modes, please slide the mode selector for the Specific operating mode

6.2 caution for speak connection

The output capacity of V4.250 power amplifier is very high, be sure to use a speaker system that has sufficient input capacity. If the input capacity of your speaker system is lower than the rated output of the V4.250.power amplifier, you can protect your speakers by connecting a fuse serially between the speaker and the amplifier as shown below.



Use the following formula to determine the fuse capacity according to the speaker's input capacity.

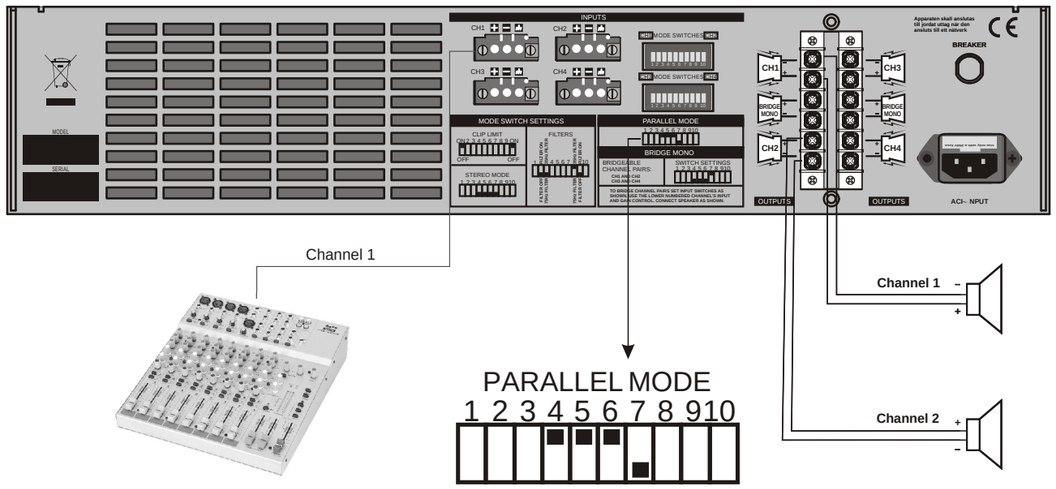
$$Po=I^2 R \longrightarrow I=\sqrt{Po/R}$$

Po[W] : Speaker's continuous input capacity (noise or RMS)
R[Ω] : Speaker's nominal impedance
I[A] : Required fuse capacity

As to the speaker cable, if you use a long one, use as thick a cable as possible to prevent deterioration of the damping factor or power loss inside the cable.

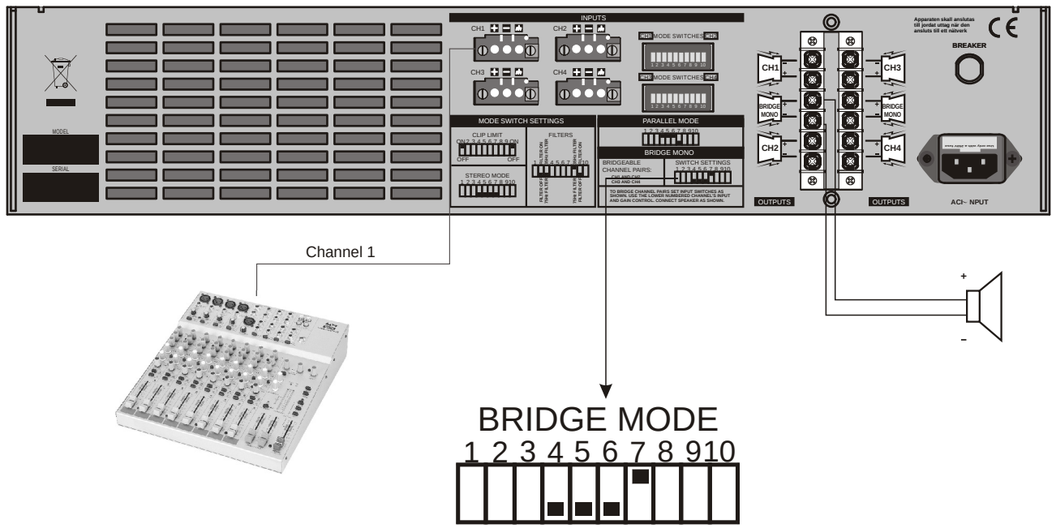
5.2 Operate V4.250 Power Amplifier In Parallel Mode

In this mode, the channel 1 input signal will be output from the output connectors of both channel 1 and channel 2. The channel 2 input jack is not used. The channel 1 and channel 2 volumes can be adjusted independently.

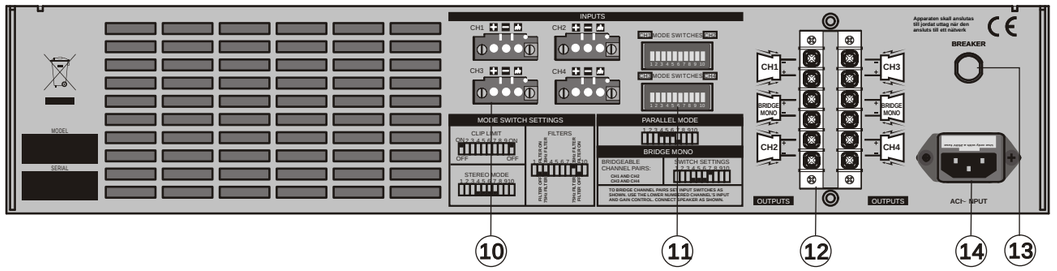


5.3 Operate V4.250 In Bridge Mode

In this mode, the channel 1 input signal will be output from the bridge output connectors. In this case, use the channel 1 volume control to adjust the volume. keep the volume control of channel 2 turned completely down (counterclockwise). Then, you can control the volume of the whole system by adjusting the channel 1 volume control.



3.2 The Rear Panel

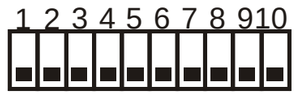


10 INPUT Terminal

This unit is provided with balanced terminals, which are used to connect the input signal. Channel 1 and channel 3 are used in bridge and parallel mode.

11 Mode Selector

You can choose the right function and output you need via the mode selector switch. In order to make you acquire these settings, now let me introduce the dip switch.

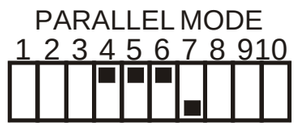


This switch is made up of 10 small dip switches, these small dip switches from1 to 5 control one channel, these rest ones (6-10) control the other channel, ok, you can choose the right mode setting you need via these small dip switches. Take the dip switch of channel 1 and channel 2 for example. Channel 3 and channel 4 are the same as channel 1 and channel 2

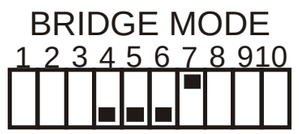
- Output Mode Selector

This unit provides three output modes: stereo, bridge and parallel. Here are some details:
Stereo mode: turn these small dip switches of 4, 5, 6, 7 up to the top, then channel 1 and channel 2 are in stereo mode;

Parallel mode: turn these small dip switches of 4, 5, 6, to the top, and turn the small dip switch of 7 down, then channel 1 and channel 2 are in parallel mode.



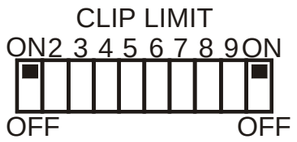
Bridge mode: turn these small dip switch of 7 up to the top, then channel 1 and channel 2 are in bridge mode.



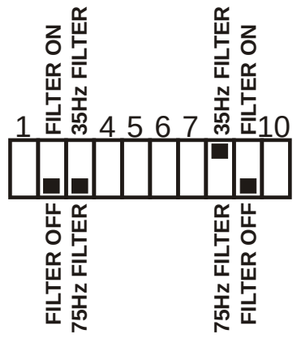
Please refer to chapter 5 for the connection of loads in detain.

- function selector

Clip limit : set these small dip switches of 1(ON) and 10(ON) at "ON" position , then the clip limit of channel 1 and channel 2 has been working; once the output level is reach or exceed the level that is predetermined by the threshold setting selected, it may result in the undesirable distortion .in order to avoid the distortion, the clip begins; if the dip switch are set at "OFF", the clip limit doesn't work.



Filter: this unit are equipped with two low cut filter eliminating unwanted low- frequency signals like rumble noise: 75Hz and 35Hz. You will activate 35Hz low cut filter by Turning these two small dip switches of 2 and 9 up to the top, and turn these two small dip switches down, you will choose 75Hz low cut filter.



⑫ Output Terminal

You can output the powered signal by the specific output connectors according to the actual application circumstance. Caution: turn off the unit before connecting the output connectors so as to avoid any electric shock!

⑬ Breaker

This switch works as fuse for protecting the unit from damage. When the unit is overloaded or the temperature inside the unit is too high, this push-button will spring up and break the power supply. The power supply will be restored with pushing this switch again.

⑭ AC-Inlet

This standard IEC receptacle is supplied to allow to connect your V4.250 to mains via the supplied power cord.

4. Installation

4.1 Mains connection

Do not insert the power cord into this unit until voltage has been correctly set. Do not plug the power cord into the mains until the voltage has been correctly set. Please ensure that the V4.250 professional power amplifi ris supplied with the correct voltage before turning on this unit. If you can't power up this unit while turning on the mains switch (1), check the Breaker (14) on the rear panel fist, maybe it is pressed to reset. Otherwise, contact the technician or qualified personnel for any service.

Caution: To reduce the risk of electric shock, do not perform any servicing other than contained in this manual unless you are qualified to do so. Please turn off this unit before any installation and connection, esp. when you connect your unit into the sound system. This is important to prevent damage to the unit itself as well as other consequent speaker system. This is important to prevent damage to the unit itself as well as other consequent speaker system. The mains connection of the V4. 250 professional power amplifier is made by using the enclosed power cord and a standard IEC receptacle, and it meets all of the international safety certification requirement.

4.2 Rack Mounting

the most secure mounting is on a universal rack shelf available from various rack manufactures or your music dealer. The V4.250 professional power amplifier fits into one standard 19" rack unit of space. Be sure that there is enough air space around the unit for sufficient ventilation. If heat release is inadequate, this unit will retain heat inside, which may cause the protection, or even a fire.

5. Application

The V4.250 provides three operating modes with each unit: stereo mode, parallel mode and bridged mode, you can decide each specific operating mode according to your actual application circumstance. Following examples will show you the typical connections, you can refer to install your V4.250 into a sound system:

5.1 Operate V4.250 Power Amplifier In Stereo Mode

In this mode, channel 1 and channel 2 operate independently (as a conventional stereo amp).The channel 1 input signal will be output from the channel 1 output jacks, and the channel 2 input signal will be output form the channel 2 output jacks.(take channel 1 and channel 2 for example)